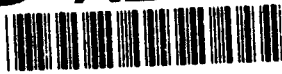


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**Size 12 Leather Personnel Carriers:
Tactical Mobility and the Light Infantry**

A Monograph
by
Major John J. O'Brien
Infantry

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School of Advanced Military Studies
United States Army Command and General Staff College
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ABSTRACT

SIZE 12 LEATHER PERSONNEL CARRIERS: TACTICAL MOBILITY AND THE LIGHT INFANTRY by MAJ John J. O'Brien, USA, 50 pages.

This monograph examines tactical mobility doctrine for light infantry. Restoring mobility to the battlefield became the foremost theoretical issue in the aftermath of the First World War. Mechanization and the increased lethality of modern firepower had seemingly rendered the foot mobile infantryman superfluous. The foot mobile infantryman did not disappear however, and he did reappear in the US Army force structure in the four light infantry divisions formed between 1984 and 1987. Do recent examples of light infantry employment indicate our doctrine for our light infantry is correct?

The monograph first establishes a definition of mobility and examines how we discuss and define mobility in our doctrine. From this process, it is possible to identify two distinct tiers of mobility: one which describes heavy force mobility, and one which describes light force mobility. The two-tier mobility model is used to examine the theories of employment of light infantry as discussed by J.F.C. Fuller, B.H. Liddell Hart, and Heinz Guderian. Included as a theory is the "light infantry tradition", a body of thought which describes the characteristics and employment of light forces.

The two-tier mobility model is then compared against three historical examples of recent light infantry employment. The conclusion reached is that there is room within the constraints of light-tier mobility for carefully designed vehicle support for logistics and direct firepower which would enhance the capability of light infantry units without violating the advantages accrued by its unique mobility characteristics. A second conclusion is that light infantry is most effective in the higher intensity, armor heavy environment when used for disruption of enemy command and control and logistics targets. Too much of an attempt to integrate units with radically different mobility characteristics can be counterproductive.

The implication of the conclusions is that our current doctrine for light infantry is not far from the mark. A small force structure change to enhance logistics and direct firepower capability in the low- and mid-intensity environment should be considered. Light infantry operations in armor heavy environments should focus more pointedly at disruption missions, a recognized capability which requires greater emphasis.

ABSTRACT

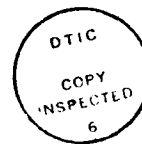
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INTRODUCTION

I sometimes think the most mobile item we have is the soldier on two feet. We must do something about reducing the quantity of our equipment and provide all personnel with a better understanding of the true meaning of MOBILITY. (1)

Mobility is not a new variable in the art and science of war. Sun Tzu alluded to mobility when he advised his students, "when campaigning, be swift as the wind... move like a thunderbolt."² Baron Antoine Henri Jomini recognized that a "system of rapid and continuous marches multiplies the effect of an army and at the same time neutralizes a great part of that of the enemy's."³ Deeply rooted in our American military heritage is an understanding about mobility expressed in the famous axiom of Nathan Bedford Forrest: "get there the firstest with the mostest."⁴

Despite the long recognized importance of mobility as a variable in the art and science of war, it has become an increasingly difficult concept to master. In the aftermath of World War I, mobility took on the nature of one of those key fundamentals from which a student could distinguish the prognostications of one military theorists from the next. It was not surprising to discover that even as late as 1960, General Clark, quoted above, would be concerned providing all personnel a better understanding of the true meaning of mobility.

This paper is about the true meaning of mobility, especially as it applies to the tactical mobility of light infantry. It is a theoretical discussion about a particular quality of a unique type of combat unit. Clausewitz reminds us, "in theoretical discussions particular terms should

be reserved for particular qualities."⁵ The first section of this paper will assist in making clear a definition of mobility. I will identify how we, the US Army, use the term in our current doctrine, FM 100-5, Operations. I will conclude the first section by identifying the two tiers of mobility which should serve as the criteria for assessing the adequacy of tactical mobility planning for US light infantry divisions.

Mobility theory will be discussed in the second section of the paper. The fundamental theoretical issue raised by the World War I experience was how to restore mobility to the battlefield. The paradigm for the European theorists was that of traditional nation-state warfare conducted on the land mass of continental Europe. While this paradigm is still very useful for developing an understanding about the nature and role of mobility in modern warfare, one should be cautious enough to recognize there are limitations to this model in our era. The known or observed battlefield upon which the theoretical paradigm was built has been altered and expanded over time by significant political, technological, and demographic changes. Low intensity conflict, the effects of over-reliance and dependency on technology, and types of warfare which occur outside the structure of traditional nation-state warfare, are variables which should be considered in a newer or broader theoretical paradigm.⁶

History, as an analytical tool, often helps bridge the gap between theory and practice. The third section of this paper will provide three case studies of light infantry employment in recent history. The case studies were selected to highlight light infantry employment in low-, mid-, and high-intensity environments. The case studies focus specifically on tactical mobility. The observations will be derived and analyzed with reference to the two-tier mobility criteria identified in section one of this paper.

The conclusion of this paper seeks to answer the question, do recent examples of light infantry employment indicate a need to reevaluate tactical mobility concepts and doctrine for US Army light infantry units? The criteria used throughout the examination of theory and historical case studies will be the two-tier mobility model which I will present in this first section of the paper. Implications of the answer to the research question will be the final point of discussion.

DEFINING MOBILITY

Mobility, in its simplest sense, is the ability to move or be moved. The Oxford Dictionary makes reference to a distinct military usage; "the quality of being able to move rapidly from one position to another".⁷ The purpose of this section of the paper is to come to grips with a precise definition of tactical mobility, to understand how the term is incorporated in our current doctrine, and to develop the criteria for assessing tactical mobility requirements for light infantry.

The Joint Chiefs of Staff military dictionary defines mobility as, "a quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill the primary mission".⁸ Precision was added to the Oxford definition by indicating that movement must also incorporate a retention of the ability to accomplish the mission at the completion of the move. While such a definition is useful at the Department of Defense level where such definitions must be broad enough to remain applicable to all services, more precision is required to define mobility for Army use. A study of mobility conducted by the Command and General Staff College in 1960 produced the following definition:

Military mobility is the capability to make controlled movement of combat power to the place and at the time required to accomplish the assigned mission without unacceptable loss or logistical effort. Military mobility of a force must be measured against the enemy's capabilities. (9)

Within this broad definition, it has become useful to distinguish three subcategories of mobility. These subcategories are strategic mobility, operational mobility, and tactical mobility. The appearance of these terms coincided with recognition of the three levels of war.

Strategic mobility is, "the ability to get into military business."¹⁰ For the United States, this means the ability to get from one land mass to the target land mass over a large body of water. It means crossing a major water obstacle by air or by sea. Airlift and sealift provide this capability. The Army contribution to strategic mobility has been what General Carl Vuono calls "a deployable Army", the structuring of Army forces which enables deployment within the constraints of available lift. The importance of this capability to deploy must be credible... "no amount of commitment can substitute for timely deployment of sustainable land forces capable of countering a miscalculation or deliberate aggression by an opponent."¹¹

The subcategory of operational mobility must be defined within the context of what is being attempted at the operational level of war. In the German or Russian sense of operativ, "it means the ability to move fast over considerable distances... say of one hundred to three hundred miles... and of course, to arrive fit to fight."¹² The distance suggested here is less important than the ability to move to a depth or location which facilitates achieving an operational objective. From a United States perspective, strategic mobility provides lift from the Continental United States to a

point of entry in the designated theater of operations. Operational mobility then becomes the ability to deliver combat ready forces from the point of entry to the place where the force attains either an advantage of position over an enemy combat force, to the location from which it will be committed to a battle or engagement, or exploitation of a tactical success gained during the battle.

Strategic and operational mobility pertain to the ability to concentrate force in order to gain an advantage of position before the battle, or to exploit tactical success after the battle. Operational and strategic mobility emphasize transportability and logistical sustainability. Tactical mobility however, is geographically focused in and around the location where the battle or engagement is to take place. It is oriented toward the capability to move units or systems to a position from which to fire at the enemy or to move from a position which has become dominated by enemy fire. The implication of this description helps to define that tactical mobility is the tool with which to conduct the movement component of fire and movement. The symbiotic relationship between fire and movement is best expressed by the phrase, "fire without movement is useless and movement without fire is suicidal."¹³

While strategic and operational mobility refer to transportability and sustainment, "tactical mobility pertains to changes in disposition by tactical commanders to carry out their operations."¹⁴ Building upon the dynamics of what is occurring in and around the tactical battlefield, it is possible to get more clearly at a definition of tactical mobility and to distinguish tactical mobility from the associated concepts of tactical movement and tactical maneuver. "The purpose of a tactical commander's operation is the detailed destruction of enemy forces or the direct thwarting

of enemy intentions."¹⁵ "The tactical commander's dispositions must correspond to his scheme of maneuver."¹⁶ "Maneuver at the tactical level is nearly always a combination of movement and supporting fires."¹⁷ "Tactical maneuver seeks to set the terms of combat in battle... it is the means of gaining and sustaining the initiative, exploiting success, preserving freedom of action, and reducing the vulnerability of friendly forces."¹⁸ Tactical mobility is therefore, the tool by which the tactical commander can make changes in the disposition of his forces which by fire and movement allow him to destroy enemy forces or thwart enemy intentions.

Before putting this definition into context of US Army doctrine, a further distinction needs to be made. There exists some connotations when describing the tool of mobility. Mobility to an armor heavy force advocate has an engineering mechanics connotation. It has to do with the capability of mechanized vehicles to cross terrain. In this connotation one hears terms such as, "road mobility", "cross-country mobility", "vehicle crossing weight", "swimming capability". "Mobiquity" is a term coined by Brigadier (Ret) Richard Simpkin to describe the "ability to cross bad going."¹⁹ Even a term like "agility" takes on an armor unique meaning when it is defined by Simpkin, as the "reduction to the minimum of the time a vehicle is exposed when moving or firing."²⁰

The heavy emphasis on mechanics and engineering in an armor connotation contrasts with a terrain utilization connotation evident in light force thinking. Liddell Hart introduced the term "loco-mobility" to describe the freedom of light forces from terrain restrictions. Colonel Wolf Kutter has described "relative mobility" to express an advantage in mobility gained by light forces over heavier forces in close terrain.²¹ Colonel Andrew Whitehead, a British Royal Marine and veteran of the Falkland Campaign,

believes foot mobility produces "a style of tactical thinking that allows him (the light forces officer) use of flexibility and an innovative manner of operating down to the individual self-reliance of the light infantry soldier... who is not an inflexible member of a machine...."²²

These differences in connotation do not change the definition of tactical mobility as stated. It does not imply that heavy forces rely only on mechanics and engineering of their vehicles for mobility to the exclusion of good utilization of the terrain. It does not imply that light forces have somehow mastered the reality of mechanized firepower solely through the imaginative use of terrain. The distinction is made, and perhaps deliberately overstated, to assist in precision of definition and not to allow a subliminal bias to distort the meaning of particular terms.

US Doctrine and Tactical Mobility

Doctrine is the Army's collective view of how it intends to fight. It provides the Army with a common language and purpose that serve to unite the actions of many elements into a team effort.²³ The Army's current operational concept is outlined in the 1986 version of FM 100-5 Operations. Drawing out how mobility is defined and discussed in our doctrine will help to address the interrelationship between the tool of mobility and the purpose of maneuver.

Mobility is specifically addressed under four key headings. The most in-depth discussion occurs under the heading, "Dynamics of Combat Power". Mobility is considered as part of the engineer system under the major functional area of engineer support. Mobility is also considered as one of the effects of terrain in the chapter entitled, "Environment of Combat".

A fourth mention of mobility occurs in the chapter entitled, "Contingency Operations".

The Dynamics of Combat Power, in which the most in-depth discussion of mobility occurs, describe the essential building blocks of combat power. Combat power is the effect created by combining maneuver, firepower, protection, and leadership. Figure 1 displays how mobility is described within each of the dynamics.

| MANEUVER | FIREPOWER | PROTECTION | LEADERSHIP |
|---|---|---|---|
| demands air and ground <u>mobility</u> + knowledge of enemy and terrain, + effective C ² + flexible operational practices, and reliable logistics. | firing systems and supporting equipment must be <u>mobile</u> and <u>moved</u> to advantageous positions. | actions taken to counter the enemy's fire and maneuver are security, ADA, dispersal, cover, camouflage, deception, suppression, and <u>mobility</u> | the leader will determine the degree to which <u>maneuver</u> and firepower protection are maximized. |

(FIGURE 1 - Mobility and the Dynamics of Combat Power)²⁴

Mobility is again addressed in Chapter 3, "Operational and Tactical Planning and Execution", under the major functional area of engineer support. The engineer support system has three basic purposes defined as mobility, countermobility, and survivability. Mobility missions include breaching enemy minefields and obstacles, improving existing routes or building new ones, and providing bridge and raft support. Countermobility efforts limit the maneuver of enemy units and enhance the effectiveness of US fires. Survivability missions refer to the hardening of command and control facilities, key logistical centers, and battle positions. (Figure 2)

THE ENGINEER SYSTEM

| MOBILITY | COUNTERMOBILITY | SURVIVABILITY |
|------------------------------|---------------------------|--|
| Enhance friendly maneuver | Degrade enemy maneuver | Harden C ² , key logistics sites and battle positions |

(FIGURE 2 - The Engineer System)²⁵

The engineer system illustrates the relationship between mobility and maneuver. The term "mobility" is used to describe two of the missions of the engineer system. The aspect of maneuver which is to be enhanced by engineer efforts is our mobility. That which is to be attacked by countermobility is the enemy's ability to maneuver.

"The Environment of Combat", Chapter 5, addresses the operational and tactical implications of the physical environment on movement, employment, and the protection of units in campaigns, battles, and engagements. Because terrain forms the natural structure of the battlefield, terrain analysis is highlighted as a fundamental military skill. "Commanders perform terrain analysis in light of their units' mission and evaluate the terrain's potential for cover and concealment, its impact on their own and enemy mobility, and its use for observation and direct fire effect."²⁶

A fourth mention is made of mobility in Chapter 12, Contingency Operations. The paragraph cited below is the last paragraph of FM 100-5, Operations. The emphasis added is mine.

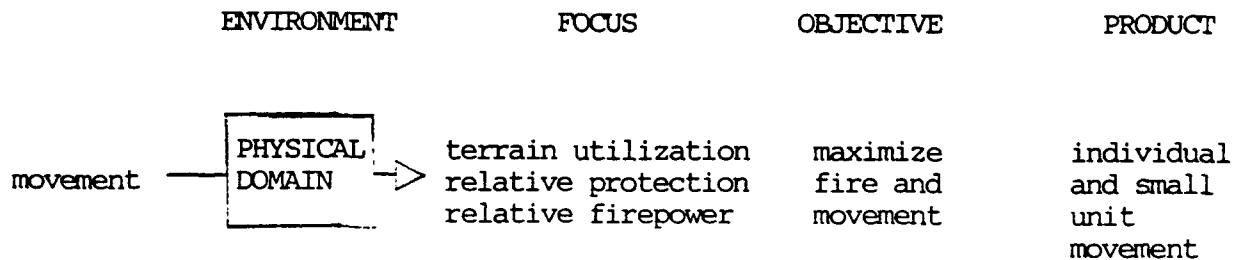
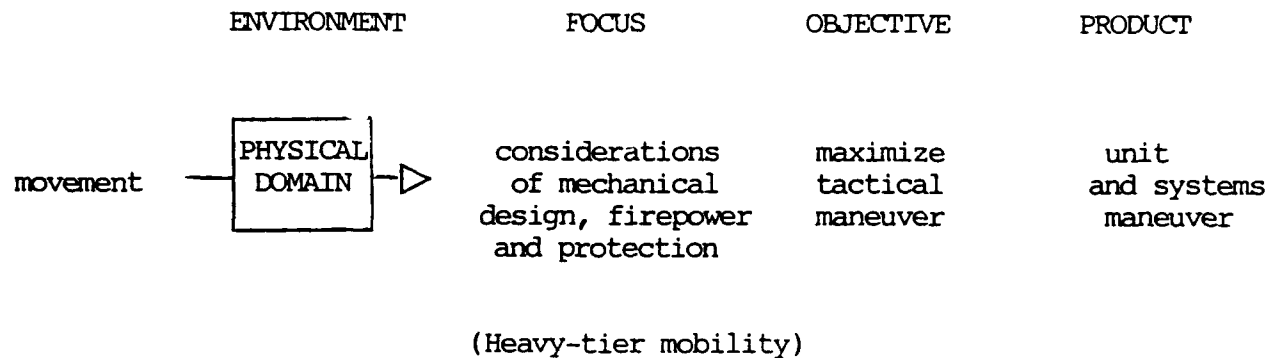
Army forces in contingency operations should be more mobile than their potential enemy. To achieve superior mobility, they may need to include mechanized, armored, and aviation units. Although it is costly, mobility improves the commander's ability to fight. (27)

Mobility is a central theme throughout the Army's keystone warfighting manual. The environment and physical domain are analyzed in terms of mobility. Our engineer effort seeks to enhance our mobility and deny the same to the enemy. Mobility is a central theme in the dynamics of combat power.

FM 71-100, Division Operations, is the Army's capstone manual for division operations. According to the doctrine expressed in this manual, divisions will employ heavy forces, light forces, or a combination of both. The distinction made between heavy and light forces is that heavy forces are characterized by highly mobile, armor protected firepower; whereas light forces are characterized by handheld small arms and crew-served weapons with personnel using dismounted movement techniques as the primary means of closing with and destroying the enemy. Because of their mobility and survivability, the heavy divisions are employed over wide areas where they are afforded long-range and flat-trajectory fire. The lack of mobility of the light division increases reaction time, thereby limiting battlefield maneuverability.²⁸ It is this lack of mobility and limited battlefield maneuverability of the light divisions contrasted against the high mobility and maneuverability of the heavy divisions which begins to get to the point of understanding tactical mobility concepts.

Drawing on the definition of tactical mobility developed earlier and identifying the place of mobility in US doctrine, it is possible to identify two tiers of tactical mobility. (Figure 3) The heavy tier of mobility reflects the dominant importance of vehicle design and the objective of enhancing unit and systems tactical maneuver. The light tier of mobility reflects the dominant importance of gaining relative protection and firepower advantages for the individual and small unit who rely on fire and movement

techniques for close-in combat. This model will serve as the criteria for examining theories of light infantry mobility and for examining the selected historical case studies of recent light infantry employment.



(Light-tier Mobility)

(Figure 3 - Two-Tiers of Mobility)

Mobility and the Theorists

The modern theorists of war are separated in time from the classical theorists of war by the cataclysmic events of 1914-1918. More precisely, the effects of the Industrial Revolution, which included a host of minor revolutions in technology, social organization, and communications, resulted in a type of warfare and battlefield conditions which could have been scarcely imaginable in the pre-Industrial Revolution. The intellectual link between the classical and modern theorists is the work of Jean de Bloch, The Future of War. Though he was an industrialist and financier, Jean de Bloch recognized the impending impact of the fruits of the Industrial Age on the nature and conduct of war.²⁹

Jean de Bloch accurately predicted the stalemate of the Western Front. A brief period of dashing maneuver vs. countermaneuver occurred in the early weeks of the war. Tactical mobility was a matter of rapid marches and well disciplined deployment. As M. de Bloch had predicted however, maneuver gave way to a vast linear entrenchment from the Channel Coast to the Swiss Alps. Wire and machine guns destroyed the tactical mobility of entire armies.

The dominant tactical issue on the Western Front became how to restore mobility on the battlefield. By the campaign season of 1916-17, the major protagonists had developed solutions, each of which, in perhaps one of the cruelest ironies of the war, could by 1918 legitimately claim the degree of tactical success which should have resulted in the operational success necessary to win the war. The French developed a close cooperation between small unit maneuver and centralized control of massive artillery concentrations. The British had developed the tank. The Germans had developed the sturmtruppen and had learned the value of infiltration to the

depth of the enemy's defense. The strategic collapse of the German and Austrian Empires preceded a clear cut resolution of the superior solution on the field of battle.

The theoretical, doctrinal, and organizational debates which took place in the British, German, and French armies in the inter-war years reflected a further refinement of those ideas and concepts which each army had found effective, and thought decisive, in the last years of World War I. Reduced to its simplest form, the issue was what to do with the traditional infantryman? Was it possible to get him through the beaten zone, or had his foot mobility and his vulnerability to the effect of modern weapons rendered his previous centrality on the battlefield superfluous?

Three theorists, J. F. C. Fuller, Basil Liddell Hart, and Heinz Guderian, attempted to answer these and like questions. The key element they shared in common was their devotion to the possibilities the effects of the Industrial Revolution would have on the future of warfare. "Mechanization", the use of the internal combustion engine as an instrument of war, would make it possible to avoid the attrition warfare of the Western Front. Despite their heavy reliance on mechanization, an often overlooked element of their theories was the role envisioned for a modern "light infantry". The proposed tactical mobility for the "light infantry" of the theorists will be compared against the criteria of the two-tier mobility model. Included at the conclusion of the theory section is a description of the "light infantry tradition".

J.F.C. Fuller.

Few men have been more closely associated with the term "armored warfare"

than Major-General J.F.C. Fuller. Fuller originally envisioned the tank as "a mobile fortress, intended to escort infantry in the attack."³⁰ Through 1917-1918, he developed an increasing fascination with the possibilities which the tank represented. "The tank must no longer be looked upon as a spare wheel to the car... but as the motive force of the car itself, the infantry being no more than its armed occupants."³¹ A new strategic possibility occurred to him as his doctrine of armored warfare matured. Contemplating an operational scheme for the tank attack at Cambrai, the concept which was later to become the subject of his 1919 Royal United Service Institute (RUSI) award winning essay, "Plan 1919", he realized that "the primary aim of the attack was to paralyze the enemy's command post and not his fighting forces... that is, his strategical (sic) brain and not his fighting body."³²

Though Fuller was fully committed to the tank as the primary means of achieving rapid victory in a war of maneuver, his armored warfare doctrine did include observations on the relationship between tanks and the supporting arms. His most fully developed work on the role of infantry in armored warfare was, Lectures on Field Service Regulations III. It was first published in 1932. An annotated version entitled, Armored Warfare, was published in 1943. Important footnotes were included in the 1943 revision which were based on his observations of the first years of World War II. By contrasting and comparing the 1932 text with the 1943 revision, one can see that Fuller remained fairly consistent in his thoughts about the role of tanks in armored warfare. His 1943 footnotes however, demonstrate a less clear, perhaps less dogmatic, line of thought about the role of infantry in armored warfare.

The most striking example of this re-evaluation process was Fuller's

recognition of a need for what came to be called by the end of World War II, "mechanized infantry". Fuller's 1932 observation was, "to combine tanks and infantry is tantamount to yoking a tractor to a drought horse."³³ When in tank country he believed infantry were, "not only useless but a perpetual source of anxiety".³⁴ His 1943 footnote amended his comment, "when I wrote this I had in mind infantry as commonly understood- namely, foot soldiers whose raison d'etre is to fight their like."³⁵ World War II revealed a need for what Fuller called, "anti-tank foot... motorized infantry equipped with anti-tank weapons." His "anti-tank foot" would provide a secure base of operations from which the tank fleet could sortie. They were to be, "the modern representatives of the medieval wagon laager."³⁶

Traditional infantry, the type of which armies of World War I were mainly comprised, had no place in Fuller's armored warfare doctrine. He did recognize a need for an infantry like forces to fulfill a variety of battlefield functions. One component of what had been traditional infantry became "field pioneers". Another component became a quasi-constabulary force of field policemen responsible for the occupation of conquered territory. He described a force which he called "motorized guerrilla". The motorized guerrilla appears both under an infantry context and a cavalry context throughout Armored Warfare. His function appears, in my judgment, to be more in keeping with a cavalry raid role than an infantry role.³⁷ The only infantry force remaining in his armored force doctrine with a truly infantry character was light infantry.

Light infantry were to be a highly trained force armed with light machine guns and rifles. Their purpose was, "to operate in areas unsuited to tank movement- such as forests and mountains."³⁸ He provided tactical guidance for how light infantry should fight. His guidance makes clear that light

infantry were to fight other light infantry, not tanks. He provides no guidance for the cooperation of the armored force and the light infantry, except in one brief reference to operations in underdeveloped and semi-civilized countries where scout tanks, "can work with light infantry without sacrificing their speed."³⁹

Fuller's theoretical contribution identified two clearly distinct roles for "combat infantry". "All-tank", in his conceptual framework, included recognition of what we have come to recognize as mechanized infantry, his "anti-tank foot". "Anti-tank foot" required the same degree of mechanized mobility of the tank force. Light infantry, that highly trained force for use in mountainous and thickly wooded terrain, were to be foot mobile. Armored forces and light infantry were separate forces who, under ordinary circumstances, fought their separate battles in their own, unique terrain. Fuller's theoretical army did technically have two-tier mobility. The light tier however, was a very small force and did not appear to provide an army any additional operational capability beyond being able to "fight against its own kind".

Basil H. Liddell Hart

B. H. Liddell Hart and J. F. C. Fuller were collaborators who shared a common view that the tragedy of World War I resided in the ineptitude of British generalship and a failure to harness the fruits of the Industrial Revolution. Though they shared a common interest and common ideals concerning military reform, there were salient points of difference in their tactical theories which are useful to understanding mobility.⁴⁰

Liddell Hart served as a captain in the Kitchner Army, a member of

the King's Own Yorkshire Light Infantry. His combat service ended when he was gassed in the Somme Offensive in 1916. During the remainder of the war he worked revising infantry tactics manuals. His notoriety as a theorist became formal with his two part RUSI lecture presented in 1920, "The Man-in-the Dark Theory of Infantry Tactics and the 'Expanding Torrent' of Attack System".⁴¹

Liddell Hart's theoretical thought can be roughly divided into five phases. Initially, he wrote with a tactical orientation developing concepts which were infantry oriented (1919). He became a disciple of Fuller (1925) and became an armored force advocate. He eventually became less doctrinaire (1930) in favor of "mobile warfare". Beyond 1932 he devoted his attention primarily to strategic issues, such as his famous "Indirect Approach" of warfare and his "Limited Liability" doctrine for British relations to the Continent. In the aftermath of the war he devoted his attention to validating the application of his theory of "Indirect Approach" throughout history in general and in World War Two in particular.⁴²

As a prelude to his temporary conversion to Fuller's "all tank" concept, Liddell Hart began to see infantry in a purely support role for tanks. In an article entitled "The Development of a New Model Army", he suggested "tank marines" would accompany the tanks and be used as "landing parties to clear land fortifications and hill defenses under cover of fire from the tank fleet."⁴³

By 1926 Liddell Hart's thinking began to move away from the "armored warfare" of Fuller toward "mobile warfare", the difference being that mobile warfare provided mechanical mobility of the existing arms. In his editorial columns, Liddell Hart championed the cause of the Mechanized Force. This was due in a large part to his developing "Indirect Approach" in which dash,

elan, and the mobility which could truly provide strategic maneuver, "would render the battle, if it need be fought at all, a foregone conclusion."⁴⁴ He still favored the "tank marine" to accompany the tank fleet, but he was beginning to expand his thoughts to include a force of light infantry. In 1932, Liddell Hart was invited by the Commander of Southern Command, who had responsibility for the Experimental Mechanized Brigade, to address the problem of the role of infantry in the future. His address was published in book form as, The Future of Infantry. It was the preparation for this lecture which elicited the full development of his thought on light infantry.⁴⁵

Liddell Hart began his lecture by stating that the problem which occurred in World War I was, "the military chiefs of Europe... filled with dreams of Napoleonic strategy,... gave little thought to the basic problem that of finding means to revive the tactical offensive."⁴⁶ The infantry had merely occupied the ground artillery had conquered. There existed in Liddell Hart's mind, "two ways to revive the tactical offensive,... make men bullet-proof by putting them in armored vehicles", or "to teach men to evade bullets by revival of stalking methods."⁴⁷ It was to the revival of stalking methods to which he devoted the remainder of his address.

Infantry was to have a great part to play in battle as the creator of opportunity, as the "means of preparing and making possible a decision."⁴⁸ He divided infantry into two categories. Infantry of a lower degree had merely the power to hold, a power which had been accentuated by the machine gun and wire. This lower degree of infantry could provide the mobile arm a stable base from which to operate. An infantry of higher degree could be organized which would possess a truly offensive power by producing, "demoralizingly effective fire, by penetration of weak spots in the opponents

front, and by menacing his rear".⁴⁹

"The only condition on which they could do so is if they took the form of mounted infantry, mounted wholly in small armored vehicles."⁵⁰ Even the best of traditional, foot mobile light infantry could not achieve the effect of this new, mounted infantry "because they cannot strike quick enough or follow through soon enough for decisiveness in battle".⁵¹

The lower degree of infantry, important in actual war for garrison duty and point protection, required only a minimum of training to become proficient at its duties. Liddell Hart suggested as little as six weeks were required to complete the training of this force. Peacetime manning of these units was nonessential. The higher degree of infantry however, required extensive training. His famous prescription, "tria junta in uno", that the modern mounted infantryman would require three functions in one, "stalker, athlete, and marksman", reflected long term training and professionalism. "The mind as well as the body of the infantryman must be cultivated"⁵² This highly trained infantry would be able to execute three decisive forms of attack: stalking, masked, and baited.

The stalking attack was envisioned as a dismounted attack. "It is the infiltration attack applied with deliberation and craft by skirmish groups."⁵³ The masked attack was a motorized attack which would be aimed at "rapid irruption into the enemy's position and taking full advantage of obscurity".⁵⁴ A baited attack would consist of, "luring the opponent to a repulse, and of exploiting his recoil by a riposte."⁵⁵ This type of "luring defense", as it might better be called, demanded mechanized mobility.

The two infantry concepts developed by Liddell Hart were the "tank marine" and the "mounted light infantry". As a part of the armored force, the tank marine would train in accordance with doctrine appropriate for that

arm. The infantry soldier of the mounted light infantry battalion required the artistry of a field-craftsman and trained accordingly. Both would have belonged to a one-tier, fully mechanized army.

Heinz Guderian

"Perhaps it is unique in military history for one man to influence the design of a weapon, see to training the men who use it, help plan an offensive, and then lead his force into combat."⁵⁶ "Blitzkrieg", a word which invokes much emotion in any discussion of tactical mobility, is the term given to Heinz Guderian's theory of armored warfare. The term is most likely not of German origin. Its' original use by an American newspaper correspondent was to describe the strategic effect of the 1939 German campaign in Poland, and certainly not to describe a tactical doctrine.

Heinz Guderian came from a military tradition which understood mobility and how to take advantage of new technologies. Willingness to exploit advantages in technology was coupled with the doctrinal development of an operational concept called "Vernichtungsgedanke" (the idea of annihilation). Briefly described:

...it conveyed in a single striking term
the end of all military endeavor-
the total destruction of the enemy's forces...
victory was seen to lie in strategic surprise,
in the concentration of force at the decisive point,
and in fast, far reaching concentric movements, all
of which aimed at creating the decisive "Kesselschatten"
(cauldron battle) to surround, kill, and capture the
opposing army in as short a time as possible. (57)

The "Kesselschachten" was achieved by encircling the enemy so that he is forced to break out from encirclement. The attacker then enjoys the advantage

of defensive fire. If the encirclement can not be achieved by flanking movement, the enemy's front must be pierced to achieve encirclement.

The German Army was well satisfied that the "Hutier tactics" of 1917-1918, the tactic associated with skilled infantry infiltration, was the best tactical method for achieving "Kesselschachten". The motorization of logistics trains, motorization designed to provide operational mobility for units, and the motorization/mechanization of reconnaissance units were goals endorsed and pursued from the first in the Weimar Army. It was Guderian who represented thinking that took advantage of motorization beyond getting troops merely to the battlefield. He sought the ability to get them into and through the battlefield.

Guderian subscribed to J. F. C. Fuller's design that armored forces should aim to inflict complete paralysis of the enemy command and control system by deep, large scale armored raids. He differed with Fuller about the composition of the armored force. Rather than "all-tank", as Fuller would have it, Guderian emphasized that, "armored forces without speedy auxiliary weapons are incomplete and will not be able to realize their maximum potentialities."⁵⁸ The future mobile force of Guderian's design would be a "battle group", a collection of supporting arms and capabilities under a unified command to provide control and to orchestrate mass.

The infantry of the battle group was to be a mechanized infantry. The type division formed of battle groups must be, "versatile and equipped in hardware, training and mental attitude to tackle almost any kind of fighting."⁵⁹ Panzer divisions would open a gap in the enemy's defensive position and continue beyond the depth of the defense to destroy whichever targets would best facilitate the paralysis of the enemy command. Following infantry divisions, delivered to the battlefield by motorized transport,

would mop up shattered and bypassed enemy units.

Guderian's contribution to the infantry mobility issue had been somewhat obscured by the Blitzkrieg image. The judgment of many recent historians has been that the German Army fought and won its Polish and French campaigns in accordance with its traditional military precepts: "decisive maneuver, resulting in the encirclement as the means of the physical destruction of the enemy."⁶⁰ "Paralysis of command and the breakdown of morale were incidental by-products of the traditional maneuver of rapid encirclement."⁶¹

Though Guderian's strategic concept of cutting the Panzer groups loose from the main battle was never fully realized, the force structure he helped to design proved extraordinarily effective. Guderian's infantrymen were to be light enough to fight Hutier tactics. Panzer infantrymen moved into battle with tanks under a unified command. In theory Guderian sought a one-tier mobility system. The ideal Guderian German army would have provided for 100% organic mobility.

The Light Infantry Tradition and Theory

"Light infantry forces are not just lightly equipped infantry; they are infantry units which fight differently, taking maximum advantage of their unique capabilities."⁶² "They should not be ordinary forces with the title 'light infantry' attached."⁶³ "Offensively oriented, flexible, adaptable, and innovative, light infantry capitalize on stealth, surprise, speed, and shock. Light infantry relies on its own resources and its own organic weapons to destroy the enemy at close range."⁶⁴

Much has been written about light infantry in the past decade, the formation of four light infantry divisions in the US Army having been the

catalyst. Those who argue on behalf of the light infantry division concept do so characteristically on the basis of a "light infantry tradition". Those who raise doubts about the utility of the light infantry division do so characteristically on the basis of "light infantry theory". Mobility serves as the point of departure between the two.

The traditionalist sees an unbroken continuity of the superiority of the cunning individual soldier over the less mobile, and essentially mindless mass. Hussars, Uhlans, and Jaegar formations are found in the European light tradition. "The lineage of British and American light infantry must be traced through Bouquet to its real source and inspiration, Robert Rogers."⁶⁵ American and European light traditions involve the use of skilled frontiersmen, expert in marksmanship, accustomed to operating in forested and difficult terrain, and possessing the type of independence and initiative characteristic of rural living.

The historic value of light units lay in the ancillary role they played to the main battle. Intelligence gathering, disruption of foraging operations, and harassment of the enemy's main force were low level operations requiring a minimum of skill and organization. Deep raids on supply depots, communications centers, and the channeling of the enemy's main force into an unfavorable position were examples of higher level tactics performed by light units of a high degree of organization and skill.⁶⁶

The tactical advantages light units were able to develop accrued from superior mobility and decentralized operations. Fewer numbers of better trained "frontiersmen" allowed these units an advantage of relative speed of movement, the use of restrictive terrain, and freedom from lines of support. The modern light unit seeks to achieve this same degree of elusiveness and ambiguity over a less well trained light unit or over a

mechanized unit which is seemingly as unwieldy as Frederick the Great's "moving batteries".⁶⁷

The light infantry tradition rejects placing any constraints on the "frontiersmen's sense of field craft" which is an absolute key to the development of elusiveness and ambiguity. Liddell Hart reflected that if he had to choose between boys of similar type as potential officers, "those who had been Boy Scouts and those who had been OTC cadets, (he) would certainly prefer the former."⁶⁸ Once tactical instinct has been "drilled out", it is difficult to revive. Motorization/mechanization is anathema to the traditionalist. Vehicles mean motor stables which rob from training time. Any reliance on a vehicle attacks the very nature of ambiguity and elusiveness, robbing the light unit of the one essential advantage it has.⁶⁹

Light unit traditionalists point to the experience of the 9th Infantry Division when it is suggested to give a little bit of lightness for the promise of greater speed and firepower. The development of the 9th Infantry Division (Motorized) is a chronicle of how once the Pandora's Box of mechanical mobility is opened, the temptation to exploit the possibilities of increased firepower becomes too powerful to resist. The High Technology Light Division (HTLD) became an attempt to create a strategically deployable force capable of substituting for a heavy division in a heavy armor environment. Force developers could not produce the strategic deployability goal of 1000 C-141 sorties. In the end, the division would have required 1200 to 1400 sorties.⁶⁹ Nine infantry companies were all that could be mustered from the division once gun and assault gun companies were manned. Modeling tests revealed that the HTLD faired little better than a standard infantry division in the defense of restrictive terrain. It performed only incrementally better in open terrain, but nowhere near comparable to a

standard armor division. The result of deep strike capability tests were disappointing at best.⁷⁰

Light infantry theory, as has been introduced by Fuller, Liddell Hart, and Guderian, is based on the premise that the mechanization of war had so fundamentally altered the nature of war that tradition, be it in the form of horse cavalry or foot infantry, simply had to give way to the reality of the internal combustion engine. "Infantry, even the best light infantry cannot replace the need for a modernized cavalry because they can not strike quick enough or follow through soon enough for decisiveness in battle", said Liddell Hart. He further suggested that his version of light infantry, "might be light tankmen when mounted and light infantrymen when dismounted."⁷¹ The light infantry tradition very much supports a two-tier mobility and regards with deep suspicion any encroachment of the heavy tier into its domain.

HISTORICAL EXAMPLES

Having explored theoretical concepts about mobility, the final process in assessing tactical mobility for light infantry will be to examine three historical case studies against the criteria of the two-tier mobility model. The selection of case studies is always a dangerous task. Examples of light infantry employment since World War I are many. Depending on the case an author would want to support examples of success and failure abound.

I have chosen three case studies from recent light infantry experience which I believe highlight modern mobility issues. Dragon Operations (1964) is representative of rapid deployment hostage rescue missions. It is representative of the low end of the spectrum of conflict. The Falkland Campaign (1982) represents a contingency operation in mid-intensity level of combat. REFORGER 1988 represents a heavy-light force combination in a high intensity, armor heavy environment.

"Dragon Operations"

"Dragon Operations" was the code name assigned to a series of joint US-Belgian hostage rescue mission conducted in 1964. The rescue missions were necessitated by the taking of Western hostages by rebel forces attempting an armed insurrection against the government of the newly independent Democratic Republic of the Congo.⁷² Although the case study will focus on the issue of tactical mobility for the ground force introduced into the city of Stanleyville, Democratic Republic of the Congo, it is important to add a brief introductory note about strategic mobility.

Major Thomas P. Odom devotes a very excellent chapter of his history of the Dragon Operations to the operational planning of the hostage rescue. A variety of options for securing the release of the hostages were considered. A covert US Special Forces operation was considered and rejected. A covert CIA option was considered and likewise rejected. A rescue by a mercenary force operating inside the Republic was considered and it too was rejected. After examining the options, it became apparent to the political decision makers that only the introduction of a professional, overt, ground combat force could provide an acceptable guarantee of success.⁷³

Rapid strategic mobility of the type offered by a light infantry force was a fundamental prerequisite for the timely introduction of this force deep into the interior of central Africa. The ground force selected was the Belgian 1st Paracommando Brigade, a light infantry force with no organic mechanical mobility. The airlift force for movement of the Paracommando Brigade was provided by one Squadron of US Air Force C-130s.⁷⁴

The rebellion had become increasingly violent. Rebel forces moved from their traditional tribal lands and had captured the city of Stanleyville and with it, a large contingent of US, Belgian, and other Western citizens. The rebels had issued a warning that, "all Americans and Belgians should be guarded in a secure place." In the event a rebel region was to be bombarded, the instructions were to, "exterminate them all without explanation."⁷⁵ Credence was given to the threat on the same day when the rebels executed three hostages as a rebel position outside Stanleyville was attacked. A near massacre occurred on the 5th of November as rebel forces were preparing to execute 70 hostages. All 70 escaped in the confusion and panic generated by the appearance of a government B-26.⁷⁶

As has been the case in virtually all operations of this type,

intelligence about the location of the hostages was difficult to obtain. Latest intelligence available indicated that Stanleyville hosted at least 600 hostages. Thirteen possible detention sites were identified.⁷⁷ An airfield located 1½ miles from the center of Stanleyville was selected as the drop zone. The rebel strength was assessed to be 10,000, with perhaps 2,000 of these well armed.

Mobility of the rescue force and for the transport necessary to move the hostages and wounded to the airfield was a major planning consideration. The 14 C-130 aircraft provided enough lift for the ground force. An augmentation of 4 Minerva armored jeeps, 4 communications jeeps, and 12 AS-24 motorized tricycles was added to the force package.⁷⁸

The speed of the rescue force on the ground would prove to be critical. As was feared, the rebels reacted violently to the news of the 0600 hours airdrop of the commandos. An order was transmitted over Radio Stanleyville, "kill all foreigners."⁷⁹ One hour and fifteen minutes after the drop, the assault force had determined the location of the majority of the hostages under rebel control to be 1½ miles away at the Hotel Victoria. The first company column proceeded to their objective, "weighted down by their heavy loads of equipment and ammunition and moving more slowly than (Col) Laurant (Commander, 1st Belgian Para) wished."⁸⁰ The column was preceded by two of the armored jeeps which, "leapfrogged ahead of the troop column, one providing covering fire as the other moved."⁸¹

It took the foot mobile column 35 minutes to reach the Hotel Victoria. As the slow moving column of paracommandos neared the hotel, they were greeted by the sound of gunfire. Just prior to their arrival, and not because of it, the massacre had begun. "Eighteen hostages were already dead and another forty were severely wounded... for many of the hostages at the

Hotel Victoria, the red berets were minutes too late."⁸²

The 1st Paracommando Battalion continued its mission throughout the day. The Paracommandos secured the airfield, rounded up additional hostages and foreign nationals, and evacuated the dead and wounded. Sporadic rebel gunfire occasionally interrupted operations. Much use was made of the armored jeeps for security and for ranging beyond Stanleyville proper to locate additional foreign nationals as their locations became known. The AS-24s were used extensively for command and control. A wide variety of "confiscated transport" was used to move the dead, wounded, and hysterical.⁸³ Operations were completed by 1700 hours that day. Over 1,600 hostages and foreign nationals were successfully evacuated.

The strategic mobility of the paracommando force was an absolute prerequisite for the conduct of this operation. The augmentation of armored jeeps and AS-24 tricycles created a significant increase in the tactical mobility of the force which translated into speed and increased range. Arguably, an increased or more aggressive armored jeep capability may have allowed the force the speed necessary to arrive at the Hotel Victoria in time to interdict the massacre. The on the spot innovation in using "confiscated transport" provided additional much needed transport for the wounded and non-ambulatory.

When this operation is analyzed against the two-tier mobility model, two facts become clear. First, the light-tier mobility design of light infantry can be translated into rapid strategic mobility. Heavy-tier mobility forces simply do not yet have this capability. Amphibious forces, while they may be prepositioned currently lack the mobility to range beyond the coastal area. Secondly, though the light-tier mobility design allowed for strategic mobility, the nature of the operation demanded speed on the ground,

capability to range a great distance in and around Stanleyville, and a haul capability to move dead, wounded, and non-ambulatory persons. Light forces can provide a significant capability for intervention, interdiction, and presence in unstable areas when national interests are threatened. Once committed on the ground however, the situation can easily escalate beyond the capability of a light force if it is entirely dependent on foot mobility. If a major power is to have a credible option to protect its interests, it can not rely on the one-tier model offered by Fuller, Liddell Hart, or Heinz Guderian. Light-tier mobility forces however, as demonstrated in this case study, should not expect to rely exclusively on foot mobility during stability and crisis response operations.

The Falklands Campaign

The battle for the Falkland Islands in May-June 1982 has been called "a freak of history".⁸⁴ British naval forces and soldiers steaming to regain control of a contested possession appeared to the world as an anachronism: a vestige of an Imperial policy long past its time. Grenada, Panama, and the current deployment to Saudi Arabia indicate that large-scale contingency deployments may not be as "freakish" as may have been thought in the early 1980s.

From a strictly military point of view, the situation on the Falklands was foreign to at least a generation of soldiers and officers. "Out of area operations", as contingency operations are referred to in Great Britain, had consisted primarily of the difficult and often dangerous work of population control in the Mideast and North Ireland. "Real War" had come to be visualized in the NATO context. "There would be no familiar woods

and hedgerows to screen reconnaissance and tactical movement."⁸⁵ The barren, wind-swept, and mostly unsettled Falkland Islands would not offer the friendly host government and highly developed infrastructure which had come to be depended upon from NATO partners.

Britain's NATO oriented heavy forces were simply not designed to operate in the Falkland Island environment. Strategic sealift for such a heavy force simply did not exist. If it had, there were no off-load port facilities. A task force built around the elite light forces of the Royal Marines and the Parachute Regiment was the only land force option available.⁸⁶

Both units possessed little in the way of organic transportation. Limited wheels for some resupply and commercial Landrovers for command and control were organic, but the rocky terrain of the Falklands ruled out any hope that wheeled vehicles would be of any use. The Marines did possess some Volvo manufactured "Snowcats" as a result of planning for their GDP mission in Norway. Several of these vehicles were added to the task force in the hope they would be as effective on peat as they were on snow.⁸⁷

Critical space constraints on the shipping gathered for the task force limited the amount of assets which could be embarked. The preponderance of left over space was devoted to air defense assets. In what Major-General John Frost called, "almost an afterthought", two platoons of armored reconnaissance vehicles were tasked from the Blues and Royals Armored Regiment.⁸⁸

Lift helicopters were not organic to either the Marines or the Parachute Regiment. Four Chinooks were deployed along with the task force aboard the Atlantic Conveyor. Unfortunately for the British, The Atlantic Conveyor was sunk on 25 May with a loss of 3 of the 4 available Chinooks. A number of Gazelle and scout helicopters, as well as 3 naval helicopter squadrons,

were deployed. These helicopters however, were not of the type which provide troop lift and significant ship to shore logistics haul.

Through a combination of force design, environmental considerations, and the fortunes of war, the task force became almost entirely foot mobile for movement, logistics, and casualty evacuation. The Argentínians, by contrast, had brought with them a large number of trucks. A combination of Mercedes, Volkswagon, Dodge, Ford, and Unimog trucks were captured, prompting one British officer to comment, "it seems the Argentínians filled the place up with transport, but there was no place for it to go."⁸⁹ The contrast is sharpened by the fact the Argentínians elected to defend from static defensive positions, hence the comment the trucks "had nowhere to go", whereas the British were forced to attack across the length of East Falkland Island (65 kms) virtually unsupported by organic transportation.⁹⁰

The movement across East Falkland Island on foot in bitter winter conditions was a remarkable feat of physical endurance. The performance of the light infantry units validated their superb fitness, hard training philosophy, and excellence in basic infantry skills independent from vehicles. There was little doubt that the Argentínians, "were completely out of their depth, outclassed in experience, initiative, and fitness."⁹¹

Two tactical mobility issues were apparent in this campaign. The first issue had to do with logistics. The loss of the Chinhook helicopters practically negated logistics resupply as the attacking units moved inland by foot. Fighting was intense and the simple fact of the matter proved to be that light infantry weapons systems are logistics intensive. Tough tactical choices had to be made based solely on man-pack haul capability. In one instance, much needed 2 inch mortars were not available simply because of the haul constraint of bringing along enough mortar rounds to make a

difference.

Although "the lack of vehicles was critical, 'airborne initiative' was applied."⁹² Methods were developed to ferry supplies forward and evacuate wounded to the rear. Captured Argentinian vehicles, the Volvo Snowcats, the tractors of willing local farmers, improvised litters which carried wounded back and ammunition forward, and even the ad hoc formation of a 35 man platoon dedicated to supply haul, reflected great resourcefulness and initiative in difficult circumstances. Though it is a tribute to these light forces that they demonstrated such initiative, it would appear that a lesson learned in this instance is that intense infantry combat demands a good deal of resupply which can not be wished away. The innovation displayed by these soldiers is the same type innovation required by our logistics soldiers in US sustainment doctrine. It seems that the point might be that innovation is not a characteristic exclusive to light infantry training. It would seem prudent to consider some type of organic transportation, for ammunition in particular, that would be appropriate for light forces engaged in this higher intensity of combat.

A second mobility issue surfaced with the surprising performance of the four Scorpion and Scimitar armored reconnaissance vehicles attached from the Blues and Royals. Both type vehicles were tracked and designed with an extremely low ground pressure. The Scimitars were armed with 30mm cannon and the Scorpions were armed with 76mm rapid fire guns... "those eight light tanks were to skim across the steep, glutinous surface of the water-logged terrain and provide devastating fire support for 2 Para Battalion in their final attack outside Stanley."⁹³ Major-General(Ret) John Frost, a British soldier of considerable light infantry experience, wrote in his history of the 2d Para:

The boost to moral that this form of suppressive fire gave was considerable; fundamentally, the battle was being won by supporting arms, the infantry being free to do their own job, which is actually clearing and securing ground. (94)

The Ministry of Defense was impressed by the testimony concerning the performance of the Scorpions and Scimitars. Accepting the recommendation of the officers who fought in the campaign, a force structure change was initiated. "To these (Marine and Parachute regiments) we have just added an armored reconnaissance regiment."⁹⁵ (the US equivalent being a battalion)

The strategic and operational circumstances of the Falklands Crisis demanded the use of a light infantry force, a force which by design had light-tier mobility characteristics. The introduction of limited mechanization provided a qualitative improvement of the light infantry force in its ability to operate as light infantry. This case study indicates that wisely designed vehicles which enhance logistics and firepower in support of light infantry are a desirable addition to light-tier mobility.

REFORGER 1988

REFORGER exercises are primarily a deployment and command and control exercise. They do however, have some utility for lessons learned at the tactical level. The large number of mechanized and armor units involved in free maneuver does provide a useful laboratory for looking at some of the dynamics of large scale heavy forces movement in what is as close to a high intensity environment as can be simulated in Europe.

A recent addition to the exercises has been the inclusion of various echelons of light infantry units from the US light infantry divisions. Much has been written about the utility of these types of units in heavy-light

and light-heavy mixes in the NATO environment. REFORGER 1988 was the largest REFORGER exercise conducted, featuring V (US) Corps versus VII (US) Corps. A selected number of battalions from the 10th Mountain Division (LI) were deployed to participate.

1-87 IN of the 10th Mountain Div (LI) was attached to the 2d Armored Cavalry Regiment for the second week of the exercise. The 1-87 IN was transported from its tactical assembly area by corps CH-47s and inserted 2 kms from a battle position selected for the battalion by the 2d ACR.

The 2d ACR was assigned a 50 km sector on the right flank of VII (US) Corps. (Appendix 3). The sector included the enemy's most likely avenue of approach on the left of the ACR sector and an economy of force area on the right of the sector characterized by restrictive terrain.

The concept of employment for the 1-87 IN was to establish a blocking position in an area of restrictive terrain located in the center of the sector. The blocking position was suitable for a light infantry battalion and it freed a cavalry squadron from the defensive line to be held in a hide position until the attacking enemy exposed a flank. In addition, the positioning of 1-87 IN facilitated future movement through restrictive terrain should an opportunity for the ACR to counterattack occur. Routes through the restrictive terrain led to key choke points beyond the FLOT which the ACR would require to move forward. The restrictive terrain also led to terrain which the enemy force would be likely to use for tactical operations centers and forward logistics sites should his attack be stopped along the current FEBA. Disruption of command and control by an infiltrating 1-87 IN would then have been a possibility. The plan was seemingly ideal from the literature which had been written about such heavy-light mixes.

The ACR fought successfully for the first nine hours of the exercise.

The enemy however, did not cooperate. The first nine hours were used to set the conditions for a rapid envelopment. In accordance with a carefully orchestrated deception plan, the Regiment was engaged by 17 battalions in the V (US) Corps main attack around the right flank. The envelopment penetrated to the rear of VII (US) Corps and swept through the corps rear area.

Because of its high-speed mobility, the ACR had the ability to reposition. It became OPCON to the 1st Infantry Division and began a rearward movement. 1-87 IN was not able to reposition. It was left behind, pinned into its restrictive terrain by an enemy brigade holding the corner of the enveloping move. 1-87 IN was eventually ordered by the corps to breakout and exfiltrate across 50 kms of enemy terrain to rejoin the corps in a defensive position.

The exercise illustrated several points about tactical mobility. The 2d ACR plan for the employment of 1-87 IN was in accordance with doctrine and made use of a light infantry battalion's potential. Had the enemy plan unfolded as the IPB had predicted, practice would have, more likely than not, validated doctrine. The enemy's plan however, was not so easily predictable. The unexpected direction and intensity of the attack severed the highly mobile ACR from the 1-87 IN. Such may be the "fortunes of war". It is a "fortune" which risks becoming the routine when units with radically different mobility capabilities are expected to operate together in a highly fluid, non-linear environment.

The light infantry battalion became traditional infantry less heavy firepower when it was identified, severed, and pinned. The lesson of the exercise would seem to be that the mixing of two-tier mobility in a highly fluid, non-linear environment should be avoided. Light infantry can however,

play a significant "disruption" and "creator of opportunity" role of the type envisioned by Liddel Hart. To do so however, it must use the advantages inherent in its tier of mobility. It must avoid the area of front line combat and seek the terrain and targets suitable for its characteristics.

CONCLUSIONS AND IMPLICATIONS

Our doctrine recognizes two tiers of mobility. Heavy forces possess high speed tactical mobility. Heavy forces attack by rapid shifts in the main effort to take advantage of opportunities, by momentum, and by the deepest, most rapid destruction of enemy defenses possible."⁷⁶ In the defense they defend according to Clausewitz's principle of a shield of blows. "...they strike him with repeated, unexpected blows... with effective maneuver supported by flexible firepower."⁷⁷

The light forces were designed for low intensity conflict, but were to have a "plug-in" capability for mid- and high intensity scenarios. Utility in NATO was a specified design requirement.⁷⁸ Design guidance was to deliberately create an austere, foot mobile force. The intent, made clear by General Wickham, was that the new divisions would be organized, manned, and trained in the light infantry tradition.⁷⁹

General von Senger und Etterlin, formerly the AFCEM commander in chief, wrote in 1986, "today there is no such thing as a two-tier army; today every army worthy of the name is mechanized."⁸⁰ His observation echoes that of the theorists discussed in this monograph. The case studies presented seem to highlight the tension between theory and practice. Global powers, and powers with regional interests, have commitments, contingencies, and must be prepared to operate in environments which differ from that of central Europe. The absolute and essential need for strategic mobility is the constraint which works against a one-tier army. Geography and infrastructure further determine what type force can operate in a given environment.

The case studies further highlight a tension which exists between mere strategic lightness and the light infantry tradition. Contingency missions

require an exceptional soldier of the type produced by the light infantry tradition. In "Dragon Operations" and in the Falkland Campaign however, transportation and increased firepower, even though very limited, made a qualitative difference. That the most traditional of light infantry units, the Royal Marines and the Parachute Regiment, would add an armored reconnaissance battalion organic to their brigades is a telling indication of the regard the British learned of this type asset.

The heavy-light, light-heavy experiments in the US Army have produced numerous observations. As the REFORGER 88 case study indicated, combining units with radically different mobility capabilities is a difficult task, even under the most ideal circumstances. Light forces, in the tradition of the Hussars, Uhlans, and Robert's Rangers, seem to produce their greatest effect by doing what Liddell-Hart called "disruption" and "creating opportunity". In restrictive terrain, which is their medium, light forces should be targeted against soft targets of high value to the enemy command, control and logistics system. Mixed forces do not seem to produce the synergistic effect they have promised.

Theory and lessons learned from recent light infantry employment tell us our doctrine for light infantry is not far from the mark. The light infantry tradition would appear to be the best paradigm for low intensity and contingency operations in a low armor threat environment. Though doctrine is sufficient, the addition in the light infantry force structure of an appropriate number of low ground pressure, high mobility vehicles should be considered. The vehicle should have a logistics haul/ambulance variant as well as a rapid fire gun variant with sufficient firepower to eliminate bunkers, entrenchments, and small armored vehicles of its type. These vehicles should not be assigned below brigade level, but task organized from

brigades to battalions if required.

Light infantry will be required in tailored force packages for heavy-light and light-heavy contingency operations. "Whether for operations in the developing world or in Europe, we would need a combination of heavy, light and special operations units."⁸¹ Light infantry can not substitute for heavy forces. It is best optimized in offensive disruption roles against high value targets of the enemy command, control and logistics system in support of heavy force maneuver. By the same token, relegating light infantry to "gerndam and pioneer duties of the second line of infantry" is an equally poor utilization of the capability light infantry brings to the battlefield.

Fuller wrote in "Plan 1919", "Success in war depends upon mobility and mobility upon time. Mobility leads to mass, to surprise, and to security. Other things being equal, the most mobile side must win." In a army which demands two-tier mobility becomes important to remember that "the efficiency of the whole is measured by the product, not by the sum of the efficiency of each arm."⁸²

Implications

There are two implications which I have derived from this study of the possible need to reevaluate tactical mobility concepts and doctrine for light infantry:

* The two-tier mobility model is valid for the United States Army. The versatility and deployability required to meet potential threats across the spectrum of conflict are enhanced by light tier mobility forces and by

the fighting characteristics of light infantry. The "Dragon Operations" and the Falkland Campaign examples indicate that there is room within the light tier of mobility for vehicle support. It must be a vehicle which is carefully designed to deploy with light infantry, provide a resupply and provide a casualty evacuation capability. It would be desirable that a variant vehicle be produced which could enhance firepower to aid in the clearing of bunkers and entrenchments. The temptation to create a multi-purpose vehicle capable of carrying troops into combat and defeating main battle tanks must be avoided at all costs.

• Light infantry can and should, both in theory and practice, contribute to success in the high intensity, armor heavy environment. Its characteristics make it ideal for "disruption and creating opportunity". Attaching light infantry to "units in the line" however, tempts fate that they rapidly degenerate to traditional infantry less heavy firepower. They lose in this circumstance the very advantage of their tier of mobility.

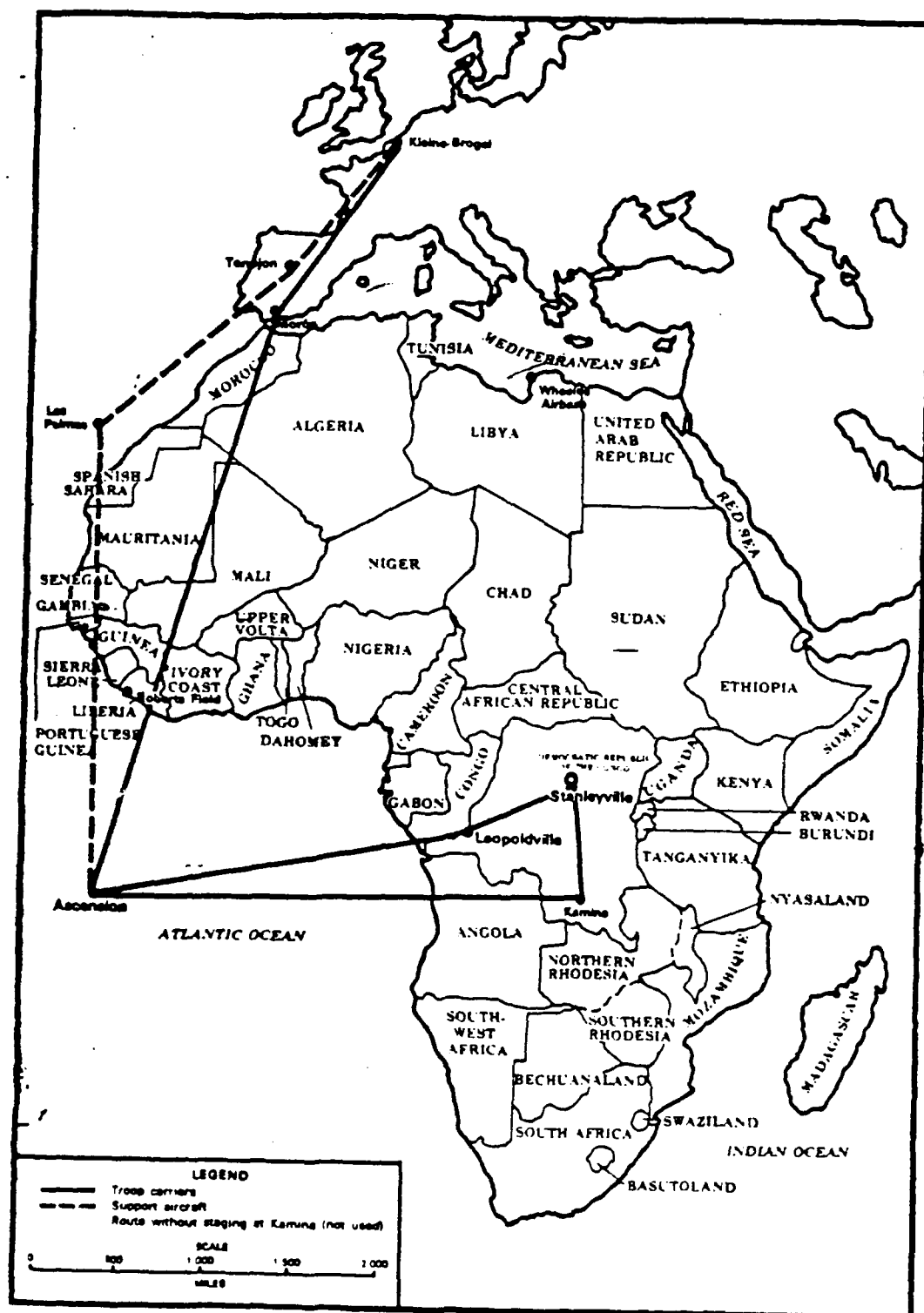
Synergism requires that heavy and light units have the opportunity to train together in order to better understand capabilities and limitations, and to develop common procedures. The Combat Training Centers tend to perpetuate the attempt to force two differing tiers of mobility together. The dynamic mobility and firepower of heavy units is necessarily restrained to accommodate the attachment of light infantry. Light infantry units are edged into role of traditional infantry- less firepower by the character and capability of the Training Centers.

A possible method of enhancing training would be to consider the stationing of separate heavy brigades or armored cavalry regiments to posts which are the home of 2 brigade light infantry divisions. Fort Drum, home

of the 10th Mountain Division (LT) and Fort Lewis, future home of the 7th Infantry Division (LT) are locations which could support the logistics and training resource requirements of heavy brigades. Such co-stationing would facilitate and stimulate thinking and experimentation of light-tier/heavy-tier cooperation without either unit losing its' essential mobility character.

Map A: Deployment to Stanleyville.

Dragon Operation: Hostage Rescues in the Congo, 1964-65,
p. 48



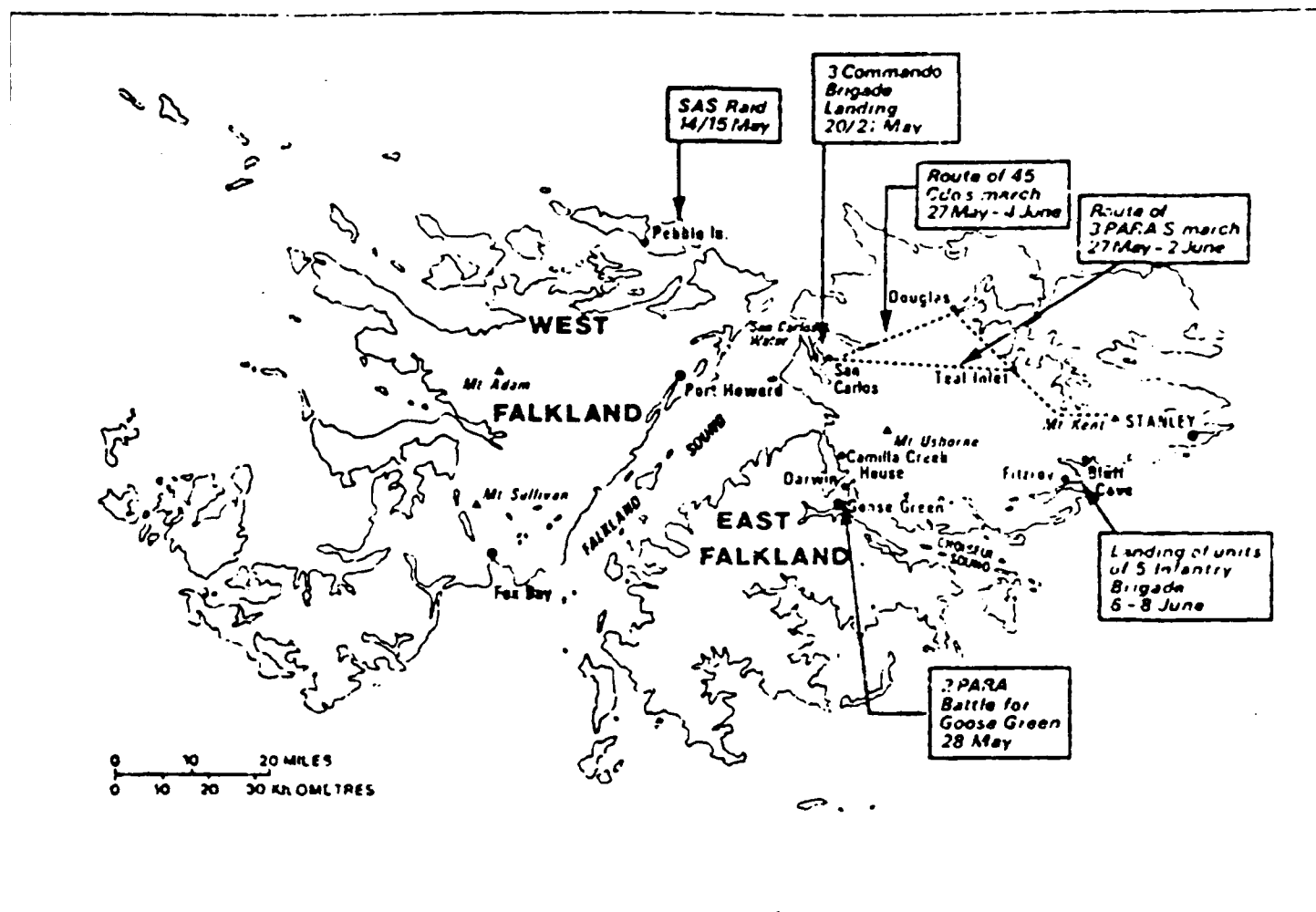
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Dragon Operations: Hostage Rescues in the Congo, 1964-65,
p. 70



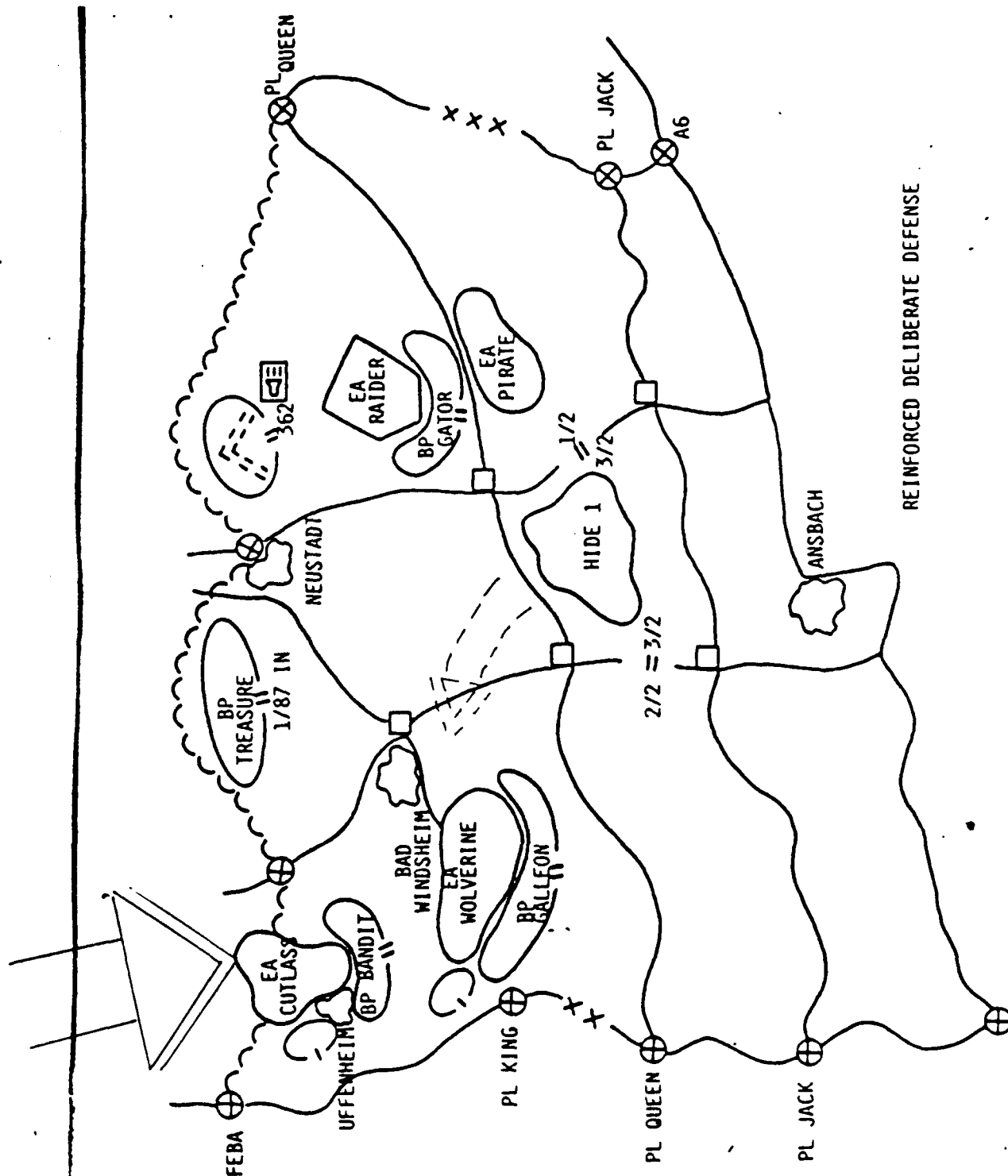
Map C: East Falkland Island Operations

The Falklands Campaign: The Lessons.



Map D: 2 ACR Initial Positions (Most Likely Enemy Course of Action added.)

2 ACR After Action Review: REFORGER 1988, p. 9

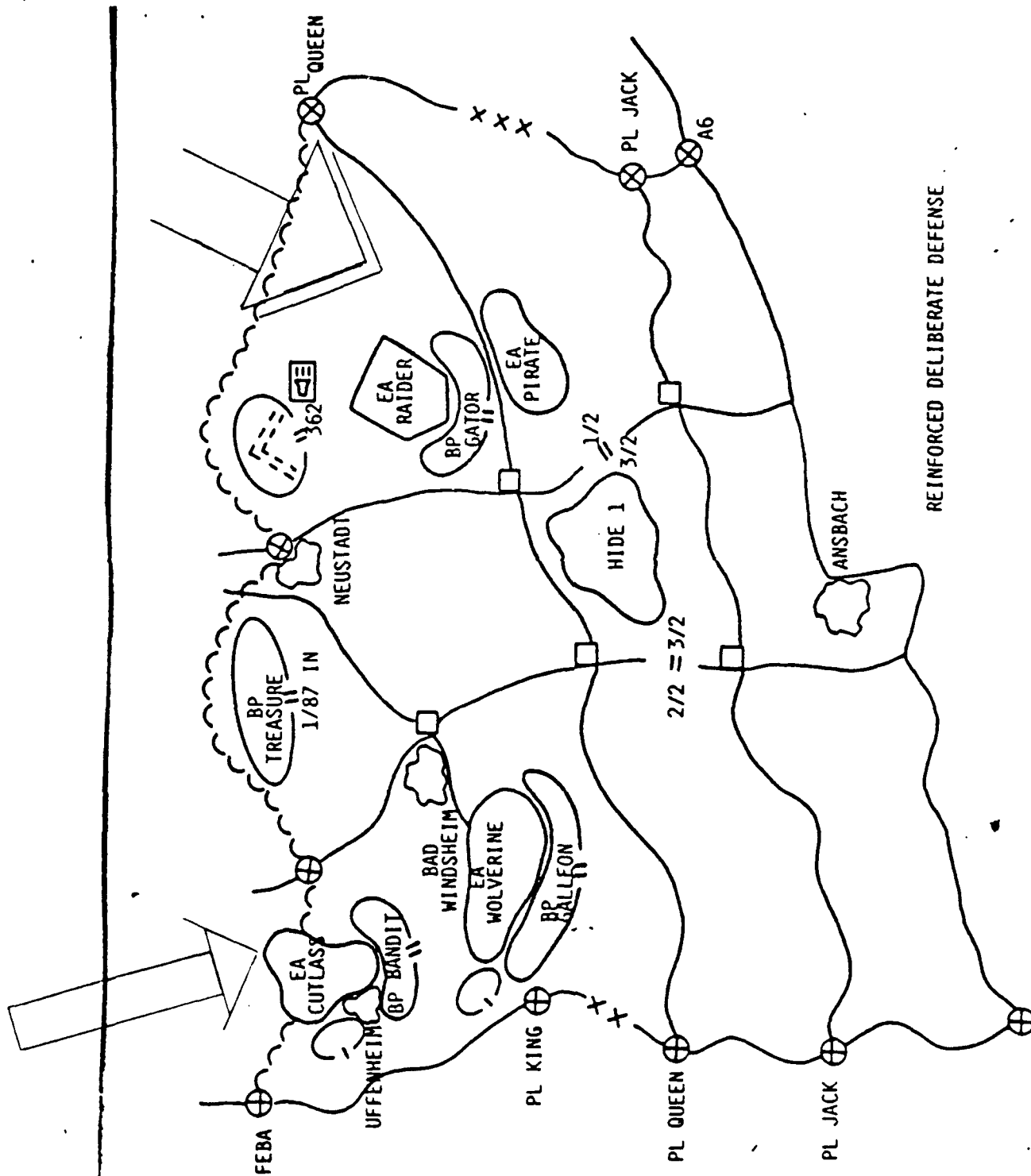


REPRODUCED AT GOVERNMENT EXPENSE

REPRODUCED AT GOVERNMENT EXPENSE

Map E: 2 ACR, Actual Enemy Course of Action. (added)

2 ACR After Action Review: REFORGER 1988, p. 9



REPRODUCED AT GOVERNMENT EXPENSE

REPRODUCED AT GOVERNMENT EXPENSE

ENDNOTES

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3. Antoine Henri Jomini, The Art of War. ed. J.D. Hittle (Harrisberg: Stackpool, 1987) p. 492
4. Robert Selph Henry, "First with the Most" Forrest. (Jackson: McCowat-Mercer Press, 1969). p. 1. "His basic formula was, in an approximation of his own words, 'to git thar fust with the most'."
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19. Simpkin, "The Meaning of Mobility." p. 42

20. Ibid. p. 42

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22. Scott R. McMichael, "Discussions on the Training and Employment of Light Infantry." (Combat Studies Institute Report Number 8, undated), p. 4.

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24. See FM 100-5, pp. 12-13.

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36. Ibid., p. 17.

37. Though it is my opinion that Fuller was describing a what could be described as a cavalry raid function, the opinion of Dr. Brian Holden-Reid is that Fuller's discussion is first of all, "very confusing" and that the discription is "like that of a 'Napoleonic skirmisher'." The point is that the "motorized guerrilla" was most likely not a motorized infantryman. (Seminar discussion with Dr. Holden-Reid, 29 November, 1990. Used with permission.)

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65. James H. Silcox, Jr., "Rogers and Bouquet: The Orgins of American Light Infantry." unpublished paper, 1988, p. 17
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77. Ibid., p. 69.
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